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UNITED STATES DEPARTMENT OF AGRICULTURE

BUREAU OF ENTOMOLOGY

FOREST INSECT INVESTIGATIONS

MEDICINE LAKE LODGEPOLE INFESTATION

EXAMINATION OF JULY 4-6, 1931

by

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MEDICINE LAKE LODGEPOLE INFESTATION
Examination of July 4-6, 1931

The previous history of the mountain pine beetle infestation in the lodgepole areas in the vicinity of Medicine Lake and a description of the situation as it appeared on July 17 and 18, 1930, is included in a memorandum to the Regional Forester by J.M. Miller of July 26,1930.

The time available for the 1931 examination, made by Johnson and Salman, was not sufficient to make a more detailed examination than that accomplished the previous year, and accordingly the work completed consisted of a general topographic viewing and actual examination of trees in the Garner Mountain lodgepole area; a general examination of the uninfested and infested stands around Medicine Lake; the running of 1½ miles of strip, 1 chain wide, which crossed through all phases of the advancing infestation; the cruising of the plot established in 1930, and the examination and analysis of the infestation in spot centers outside the epidemic area as it existed in 1930. It is felt that this work is not of sufficient intensity to furnish quantitative data concerning the infestation, and accordingly no attempt will be made to present figures, other than to compare the 1930 infestation with that occasioned by the 1929 brood of insects.

Garner Mountain Infestation

The D. monticolae infestation in the two small areas of lodgepole east of Garner Mountain has spread to cover approximately four times the area covered by the infestation of last year. No solid front of infestation has yet developed in these areas, however, and the infestation is still in the "spot center" stage, with groups of from 3 to 40 infested trees scattered over the northern and western portions of the lodgepole type. Actual count of infested trees in several groups showed an average of over three 1930-brood trees for every one 1929-brood tree, indicating an increase of about 350 per cent.

Medicine Lake Infestation

The plot cruised in June, 1930, was situated near the center of a 1929 epidemic infestation. This year's cruise showed but five additional trees infested by the 1930 brood. The following figures show the losses suffered on the two-acre plot to date:

Losses previous to 1929	58 trees
" 1929	96 "
" 1930	5 "
Green trees	90 "

Results of Strip Cruise

A strip was run along the south side of the lake from the relatively uninfested stand at the southwest end of the lake east to the plot near the center of the 1929 infestation. This strip was 140 chains long and one chain wide. The results were as follows:

Distance	Location	1929	1930	Trs.per acre 1930 brood
65 chains	Relatively uninfested area outside previous infestation	10	9	1.4
5 "	New spot center of infestation	1	11	22.0
45 "	Relatively uninfested area outside previous infestation	2	9	2.0
5 "	At margin of previous center of epidemic infestation	2	14	28.0
10 "	Within previous center of infestation	25	4	4.0
5 "	Between two previous centers of infestation	7	11	22.0
5 "	Within another previous center of epidemic infestation	5	3	6.0
140 "		52	61	4.3 Av.per acre

The above figures illustrate a very noticeable feature of the infestation as it appears in 1931. The 1929 centers of infestation contain relatively few new trees. Around the margins of these centers, however, 1930-brood trees are abundant. Numerous small new spot centers also are scattered throughout the lodgepole type, and these usually consist entirely of 1930-brood trees, or trees of that brood outnumber those attacked in 1929 by several times.

Examinations were made of several 1929 spot centers along the Round Mountain Road near the southeast end of the lake. They showed that the number of 1930-brood trees had increased in some cases by as much as 24 times.

It would be entirely speculative to estimate the total number of infested trees on the epidemic area on the basis of the meager data collected. It is believed, however, that the data secured by the strip cruise are representative, except that perhaps too small a proportional part of heavily-infested area was included. Accordingly, any estimates based upon the data would be entirely too conservative.

Course of the Infestation

The probable course of the infestation, as outlined by Mr. Miller in his memorandum of July, 1930, is apparently being followed very closely. The previous spot centers of infestation are coalescing to form a solid front. The number of newly-infested trees is apparently about the same as in 1930, and the spread into previously uninfested stands is gradual.

Although the epidemic has by no means attacked the entire lodgepole type of forest in the vicinity of Medicine Lake, it has destroyed the greater portion of the trees along the northeast, east and southeast margin of the lake. The infestation is continuing to spread and, if it continues this course, will destroy much of the lodgepole pine along the northern and southern shores of the lake in a few years. At the present time the trees are in the "red" stage, or some of the older insect-killed trees are devoid of needles. These are falling rapidly and, together with the tinder-like standing trees, constitute an unmeasurable fire hazard and detract from the recreational values afforded by the lake.

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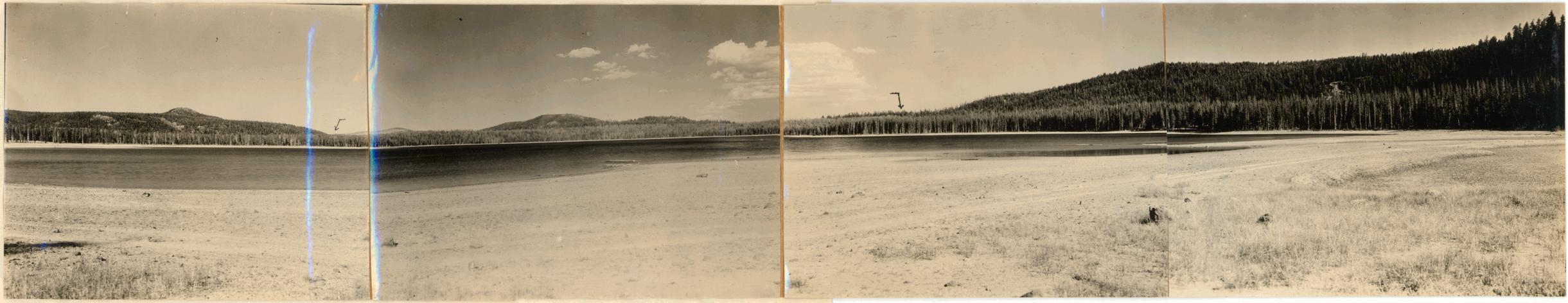
Berkeley, Calif.,
July 18, 1931.



Panoramic view of infestation in lodgepole pine at Medicine Lake;
arrows indicate limits of area of epidemic conditions.
Spot centers occur throughout the stand outside this area.